

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of  
Inventor(s): Mills

App'n Ser. No.: 09/009,294



Group Art Unit: 1745

Examiner(s): Kalafut for  
Secret Committee

Filing Date: 01/20/1998

Title: HYDRIDE COMPOUNDS

\* \* \* \* \*  
June 28, 2005

**NEW INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Attached are PTO/SB/O8B forms listing the enclosed documents. Copies of the enclosed documents are attached to the presently filed Information Disclosure Statement and/or to the Attachments to the Response filed herewith.

Applicant advises the Secret Committee that took over examination of his pending applications relating to his lower-energy hydrogen technology that Applicant has made a concerted effort to review those applications for documents cited therein and to make those documents of record in each case. Because, however, Applicant's lower-energy hydrogen applications were consolidated under a single Examiner, Bernard Eng-Kie Souw, Applicant believes that the Committee should already be familiar with the totality of these documents. Nonetheless, for purposes of completeness and ensuring that all cited documents have been brought to the PTO's attention, Applicant provides the following list of applications relating to his lower-energy hydrogen technology:

U.S. Ser. No.	Filing Date
10/513,026	11/01/04
10/494,571	5/6/04
10/469,913	9/5/2003
10/331,725	12/31/02
10/319,460	11/27/02
09/669,877	9/27/00
09/813,792	3/22/01
09/513,768	2/25/00
09/678,730	10/4/00
09/362,693	7/29/99
09/181,180	10/28/98
09/225,687	1/6/99
09/110,717	7/7/98
09/110,694	7/7/98
09/501,622	2/9/00
09/501,621	2/9/00
09/111,003	7/7/98
09/111,160	7/7/98
09/110,678	7/7/98
09/009,455	1/20/98
09/009,294 ✓	1/20/98
09/008,947	1/20/98
09/009,837	1/20/98
08/467,051	6/6/95
08/467,911	6/6/95
08/416,040	4/3/95
08/107,357	8/16/93
08/075,102	6/11/93
07/825,845	1/28/92
07/626,496	12/12/90
07/345,628	4/28/89
07/341,733	4/21/89

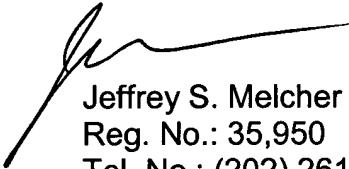
If necessary, please accept this Information Disclosure Statement under Rule 97(c) and charge the requisite Rule 17(p) fee to our Deposit Account No. 50-0687 under Order No. **62-226** for which purposes this paper is submitted in duplicate.

This Information Disclosure Statement is intended to fully comply with the rules, but should the Examiner find any part of its required content to have been omitted, prompt notice to that effect is earnestly solicited, along with additional time under Rule 97(f), to enable Applicant to fully comply.

Consideration of the foregoing remarks and enclosures, including return of a copy of the attached PTO/SB/08A and B forms with the Examiner's initials in the left column per MPEP § 609 and an early action on the merits of this application, are earnestly solicited.

Respectfully submitted,  
Manelli Denison & Selter PLLC

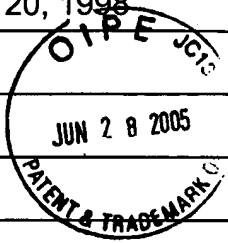
By



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Customer No. 20736

Substitute for form 1449B/PTO				<b>Complete if Known</b>	
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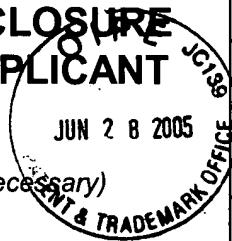


OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>2</sup>
	58	R. L. Mills, "Classical Quantum Mechanics," Physics Essays, in press. (Web Publication Date: May 23, 2002.)			
	60	R. L. Mills, J. Sankar, A. Voigt, J. He, B. Dhandapani, "Synthesis of HDLC Films from Solid Carbon," Journal of Materials Science, in press. (Web Publication Date: May 3, 2002.)			
	77	J. Phillips, R. L. Mills, X. Chen, "Water Bath Calorimetric Study of Excess Heat in 'Resonance Transfer' Plasmas," J. Appl. Phys., Vol. 96, No. 6, (2004) 3095–3102. (Web Publication Date: June 16, 2003.)			
	80	R. L. Mills, "The Fallacy of Feynman's Argument on the Stability of the Hydrogen Atom According to Quantum Mechanics," Annales de la Fondation Louis de Broglie, submitted. (Web Publication Date: Jan. 27, 2003.)			
	81	R. Mills, P. Ray, B. Dhandapani, W. Good, P. Jansson, M. Nansteel, J. He, A. Voigt, "Spectroscopic and NMR Identification of Novel Hydride Ions in Fractional Quantum Energy States Formed by an Exothermic Reaction of Atomic Hydrogen with Certain Catalysts," European Physical Journal: Applied Physics, 28, (2004), 83–104. (Web Publication Date: Feb. 21, 2003.)			
	88	R. Mills, J. Sankar, A. Voigt, J. He, P. Ray, B. Dhandapani, "Role of Atomic Hydrogen Density and Energy in Low Power CVD Synthesis of Diamond Films," Thin Solid Films, 478, (2005) 77–90. (Web Publication Date: Dec. 22, 2003.)			
	94	R. L. Mills, "The Nature of the Chemical Bond Revisited and an Alternative Maxwellian Approach," Physics Essays, in press. (Web Publication Date: Aug. 6, 2003.)			
	96	J. Phillips, C.K. Chen, R. L. Mills, "Evidence of the Production of Hot Hydrogen Atoms in RF Plasmas by Catalytic Reactions Between Hydrogen and Oxygen Species," Spectrochimica Acta Part B: Atomic Spectroscopy, submitted. (Web Publication Date: Sept. 12, 2003.)			
	97	R. L. Mills, P. Ray, B. Dhandapani, "Evidence of an Energy Transfer Reaction Between Atomic Hydrogen and Argon II or Helium II as the Source of Excessively Hot H Atoms in RF Plasmas," Journal of Plasma Physics, in press. (Web Publication Date: Sept. 26, 2003.)			
	98	R. L. Mills, Y. Lu, J. He, M. Nansteel, P. Ray, X. Chen, A. Voigt, B. Dhandapani, "Spectral Identification of New States of Hydrogen," New Journal of Chemistry, submitted. (Web Publication Date: Nov. 18, 2003.)			

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	100	R. Mills, B. Dhandapani, J. He, "Highly Stable Amorphous Silicon Hydride from a Helium Plasma Reaction," Materials Chemistry and Physics, submitted. (Web Publication Date: Nov. 17, 2003.)			
	101	R. L. Mills, Y. Lu, M. Nansteel, J. He, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Division of Fuel Chemistry, Session: Chemistry of Solid, Liquid, and Gaseous Fuels, 227th American Chemical Society National Meeting, March 28-April 1, 2004, Anaheim, CA.			
	102	R. L. Mills, "Exact Classical Quantum Mechanical Solutions for One- through Twenty-Electron Atoms," Phys. Essays, submitted. (Web Publication Date: April 22, 2004.)			
	103	R. L. Mills, Dhandapani, W. Good, J. He, "New States of Hydrogen Isolated from K <sub>2</sub> CO <sub>3</sub> Electrolysis Gases," Electrochim. Acta, submitted. (Web Publication Date: April 28, 2004.)			
	104	R. L. Mills, Y. Lu, M. Nansteel, J. He, A. Voigt, W. Good, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Division of Fuel Chemistry, Session: Advances in Hydrogen Energy, 228th American Chemical Society National Meeting, August 22–26, 2004, Philadelphia, PA.			
	113	R. Mills, K. Akhtar, B. Dhandapani, "Tests of Features of Field-Acceleration Models for the Extraordinary Selective H Balmer $\alpha$ Broadening in Certain Hydrogen Mixed Plasmas," (June 24, 2005, www.blacklightpower.com).			

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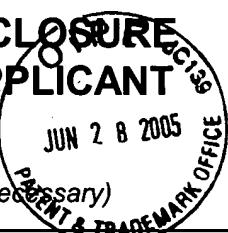
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	105	J. Phillips, C. K. Chen, R. L. Mills, "Evidence of Catalytic Production of Hot Hydrogen in RF-Generated Hydrogen/Argon Plasmas," J. Appl. Physics, submitted. ( <i>Web Publication Date: September 7, 2004.</i> )			T <sup>2</sup>
	106	R. L. Mills, "Exact Classical Quantum Mechanical Solution for Atomic Helium which Predicts Conjugate Parameters from a Unique Solution for the First Time," Foundations of Science, submitted. ( <i>Web Publication Date: October 28, 2004.</i> )			
	107	R. L. Mills, "Maxwell's Equations and QED: Which is Fact and Which is Fiction," Physica Scripta, submitted. ( <i>Web Publication Date: October 28, 2004.</i> )			
	108	R. L. Mills, J. He, M. Nansteel, B. Dhandapani, "Catalysis of Atomic Hydrogen to New Hydrides as a New Power Source," International Journal of Global Energy Issues (IJGEI). Special Edition in Energy System, submitted. ( <i>Web Publication Date: April 4, 2005.</i> )			
	109	R. L. Mills, M. Nansteel, J. He, B. Dhandapani, "Low-Voltage EUV and Visible Light Source Due to Catalysis of Atomic Hydrogen," J. Plasma Physics, submitted. ( <i>Web Publication Date: April 15, 2005.</i> )			
	110	R. L. Mills, J. He, Z. Chang, W. Good, Y. Lu, B. Dhandapani, "Catalysis of Atomic Hydrogen to Novel Hydrides as a New Power Source," Prepr. Pap.—Am. Chem. Soc., Div. Fuel Chem. 2005, 50(2). ( <i>Web Publication Date: April 22, 2005.</i> )			
	111	R. L. Mills, J. He, Z. Chang, W. Good, Y. Lu, B. Dhandapani, "Catalysis of Atomic Hydrogen to Novel Hydrogen Species H <sub>1</sub> (1/4) and H <sub>2</sub> (1/4) as a New Power Source," Thermochimica Acta, submitted. ( <i>Web Publication Date: May 6, 2005.</i> )			
	112	R. L. Mills, J. He, Y. Lu, Z. Chang, B. Dhandapani, "Comprehensive Identification and Potential Applications of New States of Hydrogen," Central European Journal of Physics, submitted. ( <i>Web Publication Date: May 9, 2005.</i> )			

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		CRITCHLEY <i>et al.</i> , "Energy shifts and forbidden transitions in H <sub>2</sub> due to electronic g/u symmetry breaking", <i>Molecular Physics</i> , 2003, Vol. 101, Nos. 4-5, pp. 651-661, Taylor & Francis Ltd.	
		GAMBUS <i>et al.</i> , "Spectroscopic Study of Low-Pressure Water Plasmas and Their Reactions with Liquid Hydrocarbons", <i>Energy &amp; Fuels</i> , 2002, 16, pp. 172-176, American Chemical Society	
		CVETANOVIC <i>et al.</i> , "Excessive Balmer line broadening in a plane cathode abnormal glow discharge in hydrogen", <i>Journal of Applied Physics</i> , 97, 033302 (2005), American Institute of Physics	
		AKATSUKA <i>et al.</i> , "Stationary population inversion of hydrogen in an arc-heated magnetically trapped expanding hydrogen-helium plasma jet", <i>Physical Review E</i> , 49, 2, pp. 1534-1544, February, 1994, The American Physical Society	
		MURAKAMI <i>et al.</i> , "Chemisorption of hydrogen into a graphite-potassium intercalation compound C <sub>8</sub> K studied by means of positron annihilation", <i>J. Chem. Phys.</i> , 62 (10), May 15, 1995, American Institute of Physics	
		AHN, "Hydrogen Storage in Metal-Modified Single-Walled Carbon Nanotubes", Division of Engineering and Applied Science, California Institute of Technology, September 15, 2001	
		DUAN <i>et al.</i> , "Numerical calculation of energies of some excited states in a helium atom", <i>Eur. Phys. J.</i> , D 19, (2002), pp. 9-12, Societa Italiana di Fisica, Springer-Verlag 2002	
		NIXON <i>et al.</i> , "Formation and structure of the potassium graphites", <i>Brit. J. Appl. Phys.</i> , Ser. 2, Vol., 1, pp. 291-299, Great Britain, 2002	
		ZELLINGER, "Experiment and the foundations of quantum physics", <i>Reviews of Modern Physics</i> , Vol 71, No. 2, pp. S288-S297, Centenary 1999, The American Physical Society	

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				JUN 28 2005 U.S. PATENT & TRADEMARK OFFICE	
Sheet	5	of	12	Attorney Docket Number	
<i>Complete if Known</i>					
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		COTTON <i>et al.</i> , "Complexes of Cyclic 2-Oxacarbenes, I. A Spontaneous Cyclization to Form a Complex of 2-Oxacyclopentylidene", <i>Journal of the American Chemical Society</i> , 93:11, pp. 2672-2676, June 2, 1971			
		LINDSAY <i>et al.</i> , "A remeasurement of the 2.4 $\mu$ m spectrum of J = H <sub>2</sub> pairs in a parahydrogen crystal", <i>Journal of Molecular Spectroscopy</i> , 218. Pp. 131-133, 2003			
		JUAREZ <i>et al.</i> , "Photoelectron angular distributions of rotationally resolved states in para-H <sub>2</sub> <sup>+</sup> : A closer to the dynamics of molecular photoionisation", The University of Manchester Atomic, Molecular & Laser Manipulation Group, pp.1-5			
		WEISSTEIN, "Ortho-Para Hydrogen", <a href="http://scienceworld.wolfram.com/physics/Ortho-ParaHydrogen.html">http://scienceworld.wolfram.com/physics/Ortho-ParaHydrogen.html</a>			
		SMITH, "Infrared spectra of BO <sub>2</sub> <sup>-</sup> in the alkali halides-L. Potassium and rubidium halides", <i>Spectrochimica Acta</i> , Vol. 30A, pp. 875-882, Pergamon Press, 1974			
		LEITCH <i>et al.</i> , "Raman Spectroscopy of Hydrogen Molecules in Crystalline Silicon", <i>Physical Review Letters</i> , 81:2, pp. 421-424, July 13, 1998, The American Physical Society			
		CHEN <i>et al.</i> , "Key to Understanding Interstitial H <sub>2</sub> in Si", <i>Physical Review Letters</i> , 88:10, pp. 105507-1 - 105507-4, March 11, 2002, The American Physical Society			
		CHEN <i>et al.</i> , "Rotation of Molecular Hydrogen in Si: Unambiguous Identification of Ortho-H <sub>2</sub> and Para-D <sub>2</sub> ", <i>Physical Review Letters</i> , 88:24, pp. 245503-1 - 245503-4, June 17, 2002, The American Physical Society			
		LAVROV <i>et al.</i> , "Ortho and Para Interstitial H <sub>2</sub> in Silicon", <i>Physical Review Letters</i> , 89:21, pp. 215501-1 - 215501-4, November 18, 2002, The American Physical Society			
		STAVOLA <i>et al.</i> , "Interstitial H <sub>2</sub> in Si: are all problems solved?", <i>Physica B</i> , pp. 58-66, 200s Elsevier B.V.			

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		MILLS et al., "Catalysis of Atomic Hydrogen to Novel Hydrides as a New Power Source", pp. 1-8, BlackLight Power, Inc.			
		DECIUS et al., "Force Constants of the Metaborate Ion in Alkali Halides", <i>The Journal of Chemical Physics</i> , 56:10, pp. 5189-5190, May 15, 1972			
		"Infrared spectra of the metaborate ion in alkali halide solid solution", <i>Research Notes</i> , pp. 600-602			
		SMITH, "Anharmonic force field of the metaborate ion in alkali halides", <i>The Journal of Chemical Physics</i> , 58:11, pp. 4776-4778, June 1, 1973			
		HISATSUNE et al., "Infrared Spectra of Metaborate Monomer and Trimer Ions", <i>Inorganic Chemistry</i> , pp. 168-174			
		JONES et al., "Force Constants of Nickel Carbonyl from Vibrational Spectra of Isotopic Species", <i>The Journal of Chemical Physics</i> , 48:6, pp. 2663-2670, March 15, 1968			
		SMITH, "Infrared spectra of BO <sub>2</sub> in the alkali halides-I. Potassium and rubidium halides", <i>Spectrochimica Acta</i> , 30A, pp. 875-882, 1974, Pergamon Press			
		SCHOENFELDER et al., "Kinetics of Thermal Decomposition of TiH <sub>2</sub> ", <i>J. Vac. Sci. Technol.</i> , 10:5, pp. 862-870, Sept./Oct. 1973			
		"Emission Characteristics for Scandium Type Dispenser Cathodes", HeatWave Labs, Inc., TB-119, May 24, 2001, Spectra-Mat, Inc.			
		"Emission Characteristics of 'M Type' Dispenser Cathodes", HeatWave Labs, Inc., TB-117, May 24, 2001, Spectra-Mat, Inc.			
		"Practical Aspects of Modern Dispenser Cathodes", <i>Microwave Journal</i> , September, 1979			

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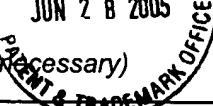
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		"Standard Series Barium Tungsten Dispenser Cathodes", HeatWave Labs, Inc., TB-198, July 29, 2002, Spectra-Mat, Inc.			
		ABATE <i>et al.</i> , "Optimization and enhancement of H <sup>+</sup> ions in a magnetized sheet plasma", <i>Review of Scientific Instruments</i> , 71:10, pp. 3689-3695, October 2000, American Institute of Physics			
		CHABERT <i>et al.</i> , "On the influence of the gas velocity on dissociation degree and gas temperature in a flowing microwave hydrogen discharge", <i>Journal of Applied Physics</i> , 84:1, pp. 161-167, July 1, 1009, American Institute of Physics			
		GORDON <i>et al.</i> , "Energy coupling efficiency of a hydrogen microwave plasma reactor", <i>Journal of Applied Physics</i> , 89:3, pp. 1544-1549, February 1, 2001, American Institute of Physics			
		RADOVANOV <i>et al.</i> , "Time-resolved Balmer-alpha emission from fast hydrogen atoms in low pressure, radio-frequency discharges in hydrogen", <i>Appl. Phys. Lett.</i> , 66:20, pp. 2637-2639, May 15, 2995			
		DJUROVIC <i>et al.</i> , "Hydrogen Balmer alpha line shapes for hydrogen-argon mixtures in a low-pressure rf discharge", <i>J. Appl. Phys.</i> , 74:11, pp. 6558-6565, December 1, 1993, American Institute of Physics			
		KONJEVIC, "Plasma Broadening and Shifting of Non-Hydrogenic Spectral Lines: Present Status and Applications", <i>Physics Reports</i> , 315, pp. 339-401, 1999, Elsevier			
		BENESCH <i>et al.</i> , "Line shapes of atomic hydrogen in hollow-cathode discharges", <i>Optics Letters</i> , 9:8, pp. 338-340, August 1984, Optical Society of America			
		AYERS, <i>et al.</i> , "Shapes of atomic-hydrogen lines produced at a cathode surface", <i>Physical Review A</i> , 37:1, pp. 194-200, January 1, 1988, The American Physical Society			
		ADAMOV, <i>et al.</i> , "Doppler Spectroscopy of Hydrogen and Deuterium Balmer Alpha Line in an Abnormal Glow Discharge", <i>IEEE Transactions on Plasma Science</i> , 31:3, pp. 444-454, June 3, 2003			
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Substitute for form 1449B/PTO				<i>Complete if Known</i>	
				Application Number	09/009,294
				Filing Date	January 20, 1998
				First Named Inventor	Mills
				Group Art Unit	1745
				Examiner Name	Kalafut
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		OLTHOFF <i>et al.</i> , "Studies of Ion Kinetic-Energy Distributions in the Gaseous Electronics Conference RF Reference Cell", <i>Journal of Research of the National Institute of Standards and Technology</i> , 100:4, pp. 383-400, July-August 1995			
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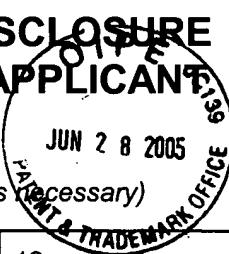
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		D. Luggenholscher, U. Czarnetzki, and H.F. Dobele Institut fur Laser-und Plasmaphysik, Universitat Essen, Germany, "Investigations on Electric Field Distributions in a Microwave Discharge in Hydrogen"			
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